



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.    | CONFIRMATION NO. |
|-----------------|-------------|----------------------|------------------------|------------------|
| 10/532,142      | 11/28/2005  | William J. Murphy    | JJK-0202 (P1998J0118A) | 6506             |

27810 7590 05/29/2007  
ExxonMobil Research & Engineering Company  
P.O. Box 900  
1545 Route 22 East  
Annandale, NJ 08801-0900

|          |
|----------|
| EXAMINER |
|----------|

MCAVOY, ELLEN M

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

1764

|           |               |
|-----------|---------------|
| MAIL DATE | DELIVERY MODE |
|-----------|---------------|

05/29/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/532,142

Applicant(s)

MURPHY ET AL.

Examiner

Ellen M. McAvoy

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 11-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicants' submission filed on 15 March 2007 has been entered.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murphy et al (6,620,312).

Applicants' arguments filed 15 March 2007 have been fully considered but they are not persuasive. As previously set forth, method claim 11 differs from Murphy et al ["Murphy"] by using a unitized mixed powdered pellet catalyst comprising both the (i) first component and (ii) the second component being selected from 8, 10 and 12 ring molecular sieves, and mixtures thereof, having a metal hydrogenation component dispersed thereon. However, Murphy teaches as the dewaxing catalyst a 10 member ring unidirectional inorganic oxide molecular sieve impregnated with from 0.1 to 3 wt.% of at least one Group VIII metal, preferably platinum or

palladium. Suitable 10 member ring unidirectional inorganic oxide molecular sieves include zeolites ZSM-22, ZSM-23, ZSM-35 and ZSM-48. Murphy teaches that the unitized powdered catalysts comprise a mixture of individual, different and distinct catalyst components. See column 4, lines 56-65. Thus the examiner is of the position that Murphy meets the limitations of components (i) and (ii) set forth in method claim 11, and meets the limitations of components (i), (ii) and (iii) set forth in method claim 19.

Applicants argue that:

“Murphy does not provide any teaching or suggestion that the second, amorphous hydroisomerization or refractory metal oxide component having a catalytically active metal component can be omitted from the catalyst. Thus, all of the unitized catalysts taught by Murphy require the presence of both a zeolite/molecular sieve type component and an amorphous type component. By contrast, the claimed invention requires contacting a waxy feed with a unitized catalyst consisting essentially of two molecular sieve components. In order to arrive at the unitized catalyst required by the claimed invention, one of skill in the art would have to ignore the express teaching of Murphy and select a catalyst containing two molecular sieve components, instead of one zeolite/molecular sieve type component and one amorphous component. No motivation or suggestion is provided in Murphy to ignore this express teaching of Murphy and instead select a unitized catalyst according to the claimed invention.”

This is not deemed to be persuasive because the claims use the language “unitized” mixed powdered pellet catalyst. The prior art reference to Murphy also uses the term “unitized” mixed powdered pellet catalyst wherein “unitized” has been defined to mean that each pellet is one made by mixing together powdered molecular sieve dewaxing catalyst(s) with powdered amorphous isomerization catalyst(s). Applicants set forth on pages 2-3 in the Summary of the Invention section in this application that the “unitized” mixed powdered pellet catalyst comprises

both zeolite/molecular sieve type component and an amorphous type component. So the examiner is of the position that the claims are unclear from the definition of “unitized” taught in Murphy and from the definition of “unitized” taught in the specification that both different types of catalysts are or are not present. Further, Murphy teaches in column 4, lines 52-55, that “The unitized powder pellet catalyst has been found to produce superior results as compared to using individual catalysts corresponding to the separate components of the mixed powder unitized pellet catalyst.” Thus, Murphy teaches that the two types of catalysts have been used *individually*, i.e., the zeolite/molecular sieve catalyst(s) alone has been used in the process to hydrocatalytic dewax the solvent dewaxed feed which is what applicants are claiming as their invention. It is also noted in Murphy that when describing either catalyst, plural forms are used, i.e., catalyst(s) which indicates that more than one of the zeolite/molecular sieves may be used. Indeed, Murphy teaches many 10 member ring uni-directional zeolites including ZSM-22, ZSM-23, ZSM-35, etc. Although independent claim 11 has been amended to include that (ii) at least one second component is *different* from the first component which also is selected from 8, 10 and 12 ring molecular sieves, Murphy teaches more than one of the zeolite/molecular sieve catalysts may be used in the invention.

***Claim Rejections - 35 USC § 103***

Claims 11-30 are also rejected under 35 U.S.C. 103(a) as being unpatentable over Brandes et al (5,723,716), Brandes et al (5,770,542) and Brandes et al (5,977,425).

Applicants' arguments filed 15 March 2007 have been fully considered but they are not persuasive. As previously set forth, the Brandes et al references ["Brandes"] disclose methods of upgrading waxy feeds using a catalyst comprising mixed powdered dewaxing catalyst and powdered isomerization catalyst formed into discrete particles. The dewaxing catalyst is a 10 member ring unidirectional inorganic oxide molecular sieve impregnated with from 0.1 to 5 wt.% of at least one Group VIII metal, preferably platinum or palladium. Suitable 10 member ring unidirectional zeolites include ZSM-22, ZSM-23, ZSM-35 and ZSM-48. The isomerization or amorphous catalyst component comprises a refractory metal oxide support base such as alumina, silica-alumina, zirconia, etc., which contains an additional catalytic component including Group VIII metals, preferably platinum and palladium, present in an amount of 0.1 to 5 wt. %, and optionally including a promoter or dopant such as yttria or magnesia. The Brandes references teach that the unitized powdered catalysts comprise a mixture of individual, different and distinct catalyst components. Thus the examiner is of the position that the Brandes references meet the limitations of components (i) and (ii) set forth in method claim 11, and meets the limitations of components (i), (ii) and (iii) set forth in method claim 19.

Applicants argue that:

"The Brandes references do not provide any teaching or suggestion that the second, amorphous hydroisomerization or refractory metal oxide catalyst can be omitted. Thus, all of the unitized catalysts taught by the Brandes references require the presence of both a 10 member ring unidirectional pore inorganic oxide molecular sieve type component and an amorphous type component. By contrast, the claimed invention requires a unitized catalyst consisting essentially of two molecular sieve components. In order to arrive at the unitized catalyst required by the claimed invention for contacting the waxy feed, one of skill in the art would have to ignore the express teaching of the Brandes references and formulate a catalyst containing two molecular sieve components, instead

of one zeolite/molecular sieve type component and one amorphous component. No motivation or suggestion is provided in the Brandes references to ignore this express teaching to form a unitized catalyst according to the claimed invention.”

This is not deemed to be persuasive because, as set forth above, the claims use the language “unitized” mixed powdered pellet catalyst. The prior art references to Brandes also use the term “unitized” mixed powdered pellet catalyst wherein “unitized” has been defined to mean that each pellet is one made by mixing together powdered molecular sieve dewaxing catalyst(s) with powdered amorphous isomerization catalyst(s). See column 3, lines 28-32 of Brandes (‘425). Applicants set forth on pages 2-3 in the Summary of the Invention section in this application that the “unitized” mixed powdered pellet catalyst comprises both zeolite/molecular sieve type component and an amorphous type component. So the examiner is of the position that the claims are unclear from the definition of “unitized” taught in the Brandes references and from the definition of “unitized” taught in the specification that both different types of catalysts are or are not present. Further, the Brandes references also teach that “The unitized powder pellet catalyst has been found to produce superior results as compared to using individual catalysts corresponding to the separate components of the mixed powder unitized pellet catalyst.” Thus, Brandes also teaches that the two types of catalysts have been used *individually*, i.e., the zeolite/molecular sieve catalyst(s) alone has been used in the process to hydrocatalytic dewax the solvent dewaxed feed which is what applicants are claiming as their invention. It is also noted in the Brandes references that when describing either catalyst, plural forms are used, i.e., catalyst(s) which indicates that more than one of the zeolite/molecular sieves may be used. Indeed, Brandes teaches many 10 member ring uni-directional zeolites including ZSM-22, ZSM-23, ZSM-35, etc.

Although independent claim 11 has been amended to include that (ii) at least one second component is *different* from the first component which also is selected from 8, 10 and 12 ring molecular sieves, Brandes teaches more than one of the zeolite/molecular sieve catalysts may be used in the invention.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellen M. McAvoy whose telephone number is (571) 272-1451. The examiner can normally be reached on M-F (7:30-5:00) with alt. Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

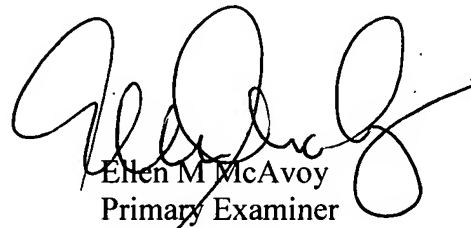
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would



Application/Control Number: 10/532,142  
Art Unit: 1764

Page 8

like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Ellen M. McAvoy  
Primary Examiner  
Art Unit 1764

EMcAvoy  
May 18, 2007